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Claims

1. An interactive television system comprising,
a television head end distribution terminal with input lines having program material in Ethernet frames with Internet protocol addresses as inputs and with multiple cable output lines,
an encoder disposed at the head end distribution terminal mapping the Ethernet frames with Internet protocol address spaces to encapsulated MPEG-2 bitstreams with address spaces smaller than the Internet protocol address spaces, the encoder having an output feeding the MPEG-2 encapsulated bitstreams to the cable output lines, and
a plurality of television set top boxes connected to the cable output lines, each set top box having an MPEG-2 decoder.
2. The system of claim 1 wherein said encoder has diverse sources for said Ethernet frames, including Internet sources and MPEG2 sources, thereby linking Internet IP addresses and MPEG2 addresses and consolidating two communications protocols.
3. The system of claim 1 having a plurality of said encoder ganged together in a manner multiplying content streams from a program source.
4. The system of claim 3 wherein said multiplied content streams are time displaced.
5. The system of claim 3 wherein said multiplied content streams are transmitted to multiple set top boxes.

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6. The system of claim 3 wherein said multiplied content streams are transmitted to a single set top box.

7. The system of claim 1 further comprising an upstream communications link between the set top boxes and the head end.

8. The system of claim 1 further comprising at least one video program material server connected to the encoder.

9. The system of claim 8 comprising a satellite program material input line connected to the encoder.

10. The system of claim 9 further comprising a satellite data management computer interfacing data in the satellite program material input line with the encoder.

11. The system of claim 1 further comprising a control computer connected to the encoder.

12. An interactive television system comprising,
a television head end distribution terminal with input lines having program material in Ethernet frames with Internet protocol addresses as inputs and with multiple cable output lines terminating in a signal combiner,

a plurality of encoders disposed at the head end distribution terminal, each encoder mapping the Ethernet frames with Internet protocol address spaces to MPEG-2 bit-streams with address spaces smaller than the Internet protocol address spaces, each encoder having an input from a source of video program material and an

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output feeding the MPEG-2 bit-streams to the cable output lines, the frequencies of the bit-streams from the plurality of encoders being different from each other, spanning a frequency band, and

a plurality of television set top boxes connected to the combiner, each set top box having a radio frequency selector and digital multiplexor to extract individual MPEG-2 bit-streams and an MPEG-2 decoder under control of specific downloaded software from the encoder.

13. The system of claim 12 further comprising an upstream communications link between the set top boxes and the head end.

14. The system of claim 12 further comprising an Ethernet hub connected to receive an input from each of the encoders and connected to an addressable controller having means for specifying frequencies for said bit-streams.

15. The system of claim 14 wherein said addressable controller is connected to a content title server.

16. The system of claim 12 wherein data modulators and up converters are connected to the combiner for combining groups of digital channels on specific radio or television frequency channels.

17. The system of claim 12 wherein digital output of said encoders is sent to the combiner together with analog channels, thereby permitting continuing operation of non-digital set top boxes.

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18. A method of transmitting Internet data to television set top boxes comprising,

formatting the Internet Protocol (IP) of the Ethernet data frames to MPEG2 encapsulated packets including the formulation of new addresses from IP packets to MPEG2 packets by mapping the Ethernet data frame (IP) addresses to an MPEG-2 bit-stream PID address, and mapping the Ethernet data frame data bits to an MPEG-2 bit-stream payload segment following a corresponding MPEG-2 bit-stream address.

19. The method of claim 18 further defined by converting each Ethernet data frame address to a virtual address associated with specific video program material and assigning said virtual address as an MPEG-2 bit-stream address.

20. An interactive television method comprising,
producing multiple content streams from singular content streams of video program material furnished from video servers or satellite down-links, and
providing a plurality of said content streams for subscribers available in stream sharing and point to point applications, wherein stream multiplication by stream sharing for multiple session true video on demand occurs without subscriber awareness that stream sharing is in progress.

21. The method of claim 20 wherein said stream multiplication is during a single time interval.

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22. The method of claim 20 wherein said stream multiplication is during staggered time intervals.

23. A method of digital data communication comprising monitoring the bandwidth employed by digital television, Internet and telephony activity and dynamically adjusting or allocating bandwidth between the services as needed.

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